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ABSTRACT

This practicum was developed to help educators overcome their uncomfortableness when using a computer. Seven adult educators were avoiding using the computers purchased for them to use in their classroom with their students. These seven adult educators showed on a survey that they were very uncomfortable using computers and were unable to perform any of the 12 tasks listed on the survey. They were then enrolled in an individualized instructional course designed to reduce computer anxiety. The 12-week course was given individually to each tutor in a stress-free environment. Twelve tasks were taught at a pace dictated by the students themselves. A survey given at the completion of the course showed that all of the tutors were either comfortable or very comfortable using the computers, and all tutors mastered all 12 tasks. This research showed that students must conquer computer anxiety before they can begin to feel comfortable with computers. Students can overcome computer anxiety by training in the proper environment. Two figures and two tables illustrate data. Appendices provide the pre-course questionnaire, pre-course task checklist, pre-course computer comfort level survey, in-progress computer comfort level survey, post-course computer comfort level survey, pre-and post-class task survey, post-course task checklist, and computer software content inventory. (Contains 36 references.) (MAS)

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ED 385 243

Overcoming Computer Avoidance by Adult Educators: An Individualized Computer Instructional Course Designed to Reduce Computer Anxiety

by

Lucy B. Cole

Cluster 61

A Practicum I Report Presented to the
Ed. D. Program in Child and Youth Studies
in Partial Fulfillment of the Requirements
for the degree of Doctor of Education

NOVA SOUTHEASTERN UNIVERSITY

1995

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Approved:

6-22-95 Georgianna Lowen

Date of Final Approval of Report Georgianna Lowen, Ed.D., Advisor

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The writer wishes to express appreciation to the general coordinator for approval of the implementation of this practicum. Special thanks goes to the writer's husband Jack who never wavered in his support and understanding.

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ABSTRACT

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Computer Anxiety/Computer Fear/Computerphobia/Computer Avoidance

This practicum was developed to help adult educators overcome their uncomfortableness when using a computer. Seven adult educators were avoiding using the computers purchased for them to use in their classroom with their students. These seven adult educators showed on a survey that they were very uncomfortable when using the computers. The seven tutors were then enrolled in an Individualized Instructional Course designed to reduce computer anxiety.

The twelve-week course was given individually to each tutor in a stress-free environment. Twelve tasks were taught at a pace dictated by the students themselves. A survey given at the completion of the course showed that all of the tutors were either comfortable or very comfortable using the computers

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Chapter I

INTRODUCTION

Description of Community

The setting for this proposal is a rural, southern county, abutting the Gulf of Mexico with many beautiful beaches. It has a population of approximately 228,000 permanent residents and an average temperature of 75 degrees Fahrenheit. These amenities have proven to be very attractive to the many retirees. When the weather grows harsh in the northern tier of states, 55,000 tourists flock to this semitropical paradise. Bumper to bumper traffic fills the previously empty streets. Long lines of people form at the county's many restaurants. This beehive of activity continues until the vernal equinox brings an end to winter in the north and the tourists can reluctantly go home.

There are many small businesses scattered throughout the

county, but there is only one really major industry, a large orange juice processing facility. Builders conveniently located the plant in a section near many orange groves. These citrus groves are found in the agricultural three-fourths part of the county. Besides processing the oranges into orange juice, the facility has its own glass-making plant for making all the glass bottles used by the plant. After the orange juice, grapefruit juice, and other citrus juice products are processed, the finished products are loaded inside the plant onto railroad cars. Engines then pull full railroad cars a short distance to the main railroad line. Drivers from the processing plant truck citrus products to a nearby deep water port for shipment all over the world.

Agriculture flourishes in the county because of the many growing seasons. The long growing season with its average rainfall of 53 inches per year results in a bewildering variety of crops grown in the agricultural part of the county. These crops include but are not limited to flowers, plants, and sod. Vegetables grown are tomatoes, cherry tomatoes, cabbage, cauliflower, cucumbers, bell peppers, onions, Chinese vegetables, beans, peas, corn, squash, celery, lettuce, eggplant and potatoes. Fruits flourishing in the area are

oranges, grapefruit, lemons, other citrus fruit, watermelon, cantaloupe, carambola, and mangos.

County employers hire large groups of Hispanic migrant workers to plant, tend, and harvest this vast variety of crops. These workers are skilled in particular activities related to the growing of crops. Some migrant workers prepare fields for planting. Then following the sun, they move on north to prepare the ground for planting in other states. Other migrant workers skilled in planting the crops follow closely. These workers also move on. Migrant workers skilled in staking soon follow. This specialization of the migrant workers results in a continuous stream of migrant workers entering the county doing their specialty and moving on to the next job site.

Writer's Work Setting and Role

Nine of the twenty-five public elementary schools in various parts of the country enroll enough children of migrant workers to justify Title 1 Migrant Language Arts Tutorial Programs. The migrant families stay in the county only long enough to complete their specialty. Then they move on to the next work place. The

migrant student then must move on too. Fragmentation of the schooling effort of the child results in a need for special programs. These specially designed programs make constant changing of schools a little bit less traumatic for these at risk students.

Four elementary schools in the county have full-time migrant programs. Each of the four schools has a full-time migrant instructional tutor. Five other elementary schools have half-day programs, and the schools share two itinerant tutors. The total number of tutors is seven and the total number of schools is nine. Students need individual instruction so that they can keep up with the other students in their regular classes. Migrant tutors use various instruments such as tape recorders, language masters, filmstrip projectors, TV/VCR monitors, laser disk players, and computers during their class time.

Being state certified as a reading teacher is a prerequisite for the roll of the tutorial teacher. Some responsibilities include writing the curriculum, ordering materials, training and supervising the seven tutors assigned to the nine schools. Child Migrant Program Tutorial Teacher is the title given to the writer's position.

A job description list explains the tutorial teacher's duties in

detail. These duties are only the "tip of the iceberg. There are multitudes of duties that have risen from the inception of the Title I Program. The unwritten duties can be every bit as important, and sometimes more important, then the duties showed in the job description. An example of this would be, that the tutorial teacher is responsible for the smooth integration of the program into schools. Some teachers do not want the program. Amicable assimilation of the program often requires the patience of Job. Communication between teachers sometimes demands the silver tongue of a Demosthenes. Decisions often demand the wisdom of Solomon.

Each of the nine schools served by the writer presents a unique set of problems. This is because of the different managerial philosophies, differing temperaments, and unique personalities held by each principal. Also many classroom teachers involved with the migrant program present the tutorial teacher with a new set of problems. The writer must factor the seven tutors' personalities, needs, and levels of formal education into the tutorial teacher's equation for a successful program.

Psychology 101 hardly prepares a tutorial teacher for the job. A

tutorial teacher who loves and enjoys working with people may solve most of the problems by patience and understanding. This makes the program run smoothly. Locating problems and finding solutions to the problems has become part of the routine of this writer. Some problems are simply misunderstandings between tutors and regular classroom teachers. The tutorial teacher can usually solve these discords by calmly introducing reason and goodwill into the controversy. In doing so, the tutorial teacher becomes a mediator between the tutor and the classroom teacher. The tutorial teacher restores communication and mutual respect between the two combatants. This tutorial teacher's role is not only to make sure the migrant program works smoothly, but also to be aware of major problems and the possible solutions.

CHAPTER II

STUDY OF THE PROBLEM

Problem Description

A Title 1 migrant tutorial teacher develops personalized lesson plans for the students and expects migrant instructional tutors to carry them out. For example, the tutorial teacher would instruct a tutor to show a student how to turn on a computer. Tutors would also teach students how to use a mouse to get to a learning program. However, this simple routine instruction becomes a huge problem for a tutor who is reluctant to even touch the computer in the first place. While the previous example reflects a worse case scenario there is some reluctance by all seven tutors supervised by the writer to use the computers.

A primary reason for getting the new computers is to introduce the migrant students to computers at an early age. Most pupils can take advantage of the immense learning potential offered by using

computers. However, these students must do without this benefit that requires the ability to use the computers, until the tutors have overcome their own reluctance to use the computers.

Now, new computers are already in place. Administrators have purchased software that is applicable for each age group. It is unfortunate that by not using the strategic planning process in the past in the writer's district there has been an unhappy experience with personal computers. Computerphobia is inversely related to experience in the use of computers (Rosen & Maguire, 1990).

When administrators purchased user-unfriendly computers in the past, they did not try to get competent instructions for the Title 1 migrant tutors. The Title I Basic Program originally purchased these computers for use in their program. It should come as no surprise that when basic head teachers found that they could not use the computers for various reasons such as inadequate instruction, computerphobia, or because of the purchase of software that was incompatible with the existing computers, many of these teachers and their assistants pushed the entire collection of unusable computers into a corner to gather dust. Administrators purchased new user-friendly computers for the Title 1 Basic teachers. The

coordinator then contributed the old dusty unusable computers to the Title 1 Migrant Program. Attempts by the Title I Migrant Program to make use of this flawed already-failed project may account for some computerphobia in the Title 1 migrant tutor to this day.

Now, a beginning for the Title I Migrant Program is underway. A Title 1 coordinator purchased new user-friendly computers for the migrant program. Besides that, the software is compatible and appropriate. The tutorial teacher designed and carried out a training program and solved the problem of unused computers in the writer's nine work places that continued to exist. This strategy replaced the apprehension of the tutors with confidence toward the computers.

Problem Documentation

Disuse of computers in the writer's nine work places was a problem. The writer observed that tutors seldom used the computers. This program required hard data to document the lack of the computer use. This writer devised a survey to give the tutors (see Appendix A). One question asked tutors to show the time spent

using the computers. Results of this question showed that five tutors never used the computers and two tutors used them a paltry ten minutes each week (see Table 1). The survey asked the tutors to show the time they allowed students to use the computers during tutoring sessions. Again five tutors did not let their students use the computers. Two tutors allowed the pupils to use the computers only a total of fifty minutes per week (see Table 2). One reason the writer designed this survey was to find the tutors main reason for not using the computers. It underscored the lack of meaningful training for the tutors, although one question showed all seven tutors had on the job training. However, the training had not been sufficient to make all of them comfortable using the computer.

Next the writer gave the tutors a computer task checklist to detect their ability to do routine tasks on the computer. The writer included twelve tasks on this checklist. None of the tutors showed that they could do any of the tasks (see Appendix B).

A questionnaire that asked tutors to note their comfort levels when using the computers (see Appendix C). It revealed that there was only one person who was very uncomfortable using the computer. Just five felt the normal uncomfortableness many feel

when exposed to new technology. Only one tutor said she was comfortable with the computer.

Table 1

Total Minutes Per Day That Computers Are Used by Title I Migrant Tutors

	Computer Use		
Migrant schools with computers	Number of tutors at each school	Computers available at each school	Minutes per day used by tutor
1.	1[a]	2	0
2.	1[a]	2	0
3.	1	2	0
4.	1[a]	2	10
5.	1	2	0
6.	1[a]	2	10
7.	1[b]	4	0
8.	1	4	0
9.	1	2	0
Totals 9	7	22	20

[a] Tutor splits day between two migrant schools.

[b] Tutor splits day between one migrant school and one non migrant school.

Table 2

Total Minutes Per Week That Computers Are Used by Title I Migrant Tutors

Computer Use			
Migrant schools with computers	Number of tutors at each school	Computers available at each school	Minutes per day used by tutor
1.	1[a]	2	0
2.	1[a]	2	0
3.	1	2	0
4.	1[a]	2	0
5.	1	2	0
6.	1[a]	2	20
7.	1[b]	4	0
8.	1	4	30
9.	1	2	0
Totals 9	7	22	50

[a] Tutor splits day between two migrant schools.

[b] Tutor splits day between one migrant school and one non migrant school.

Causative Analysis

The writer analyzed the tutors' previous computer introduction regarding user-unfriendly, outdated computers. The writer also appraised the tutors' need for instruction. An examination showed that the only result one could expect would be computer shock. Later when supervisors introduced tutors to new user-friendly computers, the tutors' reluctance to use them was understandable.

A questionnaire revealed that six of the tutors had no computer training in elementary school, middle school, high school, or college. In other words most of the tutors received no training on the computers outside the work place. Many of today's teachers and tutors received their education before the arrival of the personal computer. We should expect these teachers to look at technology with mixed feelings.

Further analysis by the tutorial teacher using a questionnaire revealed that the tutors have had in service training at the work site on the new computers. However, four of the tutors felt that the in service training was not effective at all. Three of the tutors felt that the in service training was better than none. It was apparent to the writer that the in service training received by the tutors showed

that the program was not the computer approach the tutors needed. For example, the tutors received instruction on software not available to them on their own computers and therefore this software could never be of any use to them. Paramount among the causes of the problem was not that the tutors have had limited instruction but that the instructors did not personalize the training to the individual tutor.

Another cause of the problem was the feeling that the five tutors had of uncomfortableness around the computer. For the tutors, like many people, did not want to use anything that made them feel uncomfortable.

In their haste to provide computers for the classroom, supervisors sometimes overlook the obvious, the need for instruction in the use of the computers. This happens frequently when supervisors introduce new programs. An example of this would be the arrival in 1955 of the first Russian space orbiting object named Sputnik. If our scientists could have read Russian scientific journals, they would not have been caught unaware. The American government ordered school administrators to begin foreign language instruction immediately in all of America's schools. The program

failed since there was a lack of competent instructors. Consequently, since we still do not have qualified instructors. Most American schools are still not teaching foreign languages. It was apparent from an analysis of the data from the questionnaires that there was a meagerness of computer instruction for tutors. There was also a failure to tailor the instruction available to the needs of the tutors. The writer believes there was a causal relationship between prior instruction and the tutor's degree of uncomfortableness toward the computers.

Relationship of the Problem to the Literature

Computer and computerized technologies are a reality in the lives of many Americans. We wake up every morning to music from computerized alarm clocks. We pour our coffee from computerized coffee makers. Computerized microwave ovens cook our cereal. We write our correspondence on our personal computers and we fax information through these computers just about anywhere in the world. Learning to use these computers and other computer technologies are causing large groups of people to experience mild to severe discomfort (Rosen, 1993).

Many articles have examined the phenomenon variously titled as Computerphobia (Jay, 1981), Technostress (Brod, 1984), Technophobia (Frideres, Goldenberg, Disanto, and Fleming, 1983), Cyberphobia (Rice, 1983), Computer aversion (Meier, 1985) and Computer anxiety (Raub, 1982). However no matter what name a person gives to the phenomenon, there is a large group of people who experience mild to severe discomfort when using computers (Rosen, 1983).

A questionnaire administered to the tutors by the writer revealed that five of the tutors were uncomfortable users of the computers. The other two tutors felt that they needed to know more about computers. Persons who simply lack support for individual concerns may be anxious when using the computer, and others may label them uncomfortable users (Rosen, 1993).

The U.S. Department of Labor reported that as many as 75 per cent of all jobs will involve the use of computers by the next generation (Sanders and Stone, 1986). This importance of computers in future careers makes the issue of computer anxiety an important issue in education. This is such a large and important problem; therefore, it is imperative that researchers carefully

analyze the results of research on computer anxiety. In doing so, we can help those people suffering from the effects of computer anxiety (Bohlin, 1992). Despite increased research the term "human anxiety" has resisted a consensus of definition and measurement (Cambre and Cook, 1985). However in most definitions of anxiety there is a common thread "a fear about something in the future" (Howard and Smith, 1986).

Everyone wants to be on the computer bandwagon. Educators are making many efforts to reform and improve education and student scores on achievement tests. Various school systems are searching for the best way to incorporate computers and computer technologies into the school curriculum (Ryan's study as cited in Perkins, 1993). Many people believe that there is a great potential for computers for classroom instruction (Dupagne and Krendl's study as cited in Perkins, 1993). However along with the computers potential to increase students' achievement scores, is the potential of new technologies to produce anxiety in the students. Researchers find that computer anxiety is both real and measurable (Perkins, 1993). Before students can use the computers to their full potential they must receive instruction by competent teachers. Teachers

themselves are subject to computerphobia. Research has shown that teachers who are computerphobic can and do trigger computerphobia in the public school students they are teaching (Rosen, 1988).

Research also showed that students and educators, who have computer anxiety do poorly on computer tasks and develop negative attitudes (Overbaugh and Reed, 1990). Most people have some anxiety when asked to handle and examine an expensive delicate piece of China. Since computers have a history of being expensive and delicate, these same people exhibit anxieties toward the computers (Kennedy, 1988).

Students must overcome computer anxiety before they can begin to feel comfortable with computers. Although computer anxiety is probably a temporary condition, students can overcome it by training in the proper environment (Torres, 1985). Two necessary components in overcoming computer anxiety are adequate instruction tailored to the student and an environment free from stress. Research has shown that teachers often display more computer anxiety than their students (Cambre and Cook, 1985). Exposure to computer instruction reduces teachers' and students' computer anxieties. Whatever the time spent in using the computer,

even with an exposure time as little as six hours (Overbaugh and Reed, 1990; Overbaugh and Reed, 1991), to four weeks (Reed and Palumbo, 1987/88) and 60 hours (Honeyman and White 1987), computer anxiety is reduced. Computers are effective at all grade levels. Professionals accept computers as an integral part of the education system (Roblyer, Castine and King, 1988). As important as computers are to the educational system, about one third of students entering a teacher education program at a university in the Midwest said that they had no computer experience (Liu, Reed, and Phillips, 1990).

Teachers should make available computer-assisted instruction and computer-based instruction to more students. Therefore, teachers should be prepared to integrate computers into their classes. This can only happen if there are sufficient computer literate teachers (Overbaugh and Reed, 1992).

CHAPTER III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENT

Goals and Expectations

The goal for this practicum was that the teachers would use the computers bought for them by the Title 1 migrant program. The expectation was that a course designed by the author would overcome the teachers' computer anxiety. This program would allow them to use the new computers in a way that would benefit not only their students but the entire migrant program.

Expected Outcomes

Following are the outcomes projected for this practicum. This writer will enroll all seven tutors in a course designed by the author to overcome their computer anxiety. Over a period of twelve weeks, the writer expects that all seven tutors will become proficient in at least ten of the twelve tasks presented in the course.

1. The tutors will learn the names of input and output devices on a

computer. The tutors will learn how to install a software package.

2. The tutors will learn how to write a memorandum and how to use the underline, bold, italics, and save keys.

3. The writer will teach the tutors to use a printer to print out their memorandum.

4. The writer will teach the tutors how to use content-based software and relate it to students' classroom needs. For example, a tutor will use Reader Rabbit 2 software to teach vowels and/or alphabetizing.

5. The tutors will learn how to use The Teacher's Tool Kit or Word Bingo software (whichever is available at that school) and use students' current spelling, vocabulary, or sight words to create word search or bingo-game activity sheets. Tutors will print out this activity sheet.

6. The tutors will learn how to complete purchase order information, such as typing in the date on which a purchase order was received. Tutors will type in the final cost of an item on a prepared spreadsheet. The tutors will also learn how to keep items in alignment.

7. The tutors will use such computer writing program

software packages as Kid Works 2, Cotton Tales, EasyBook, or The Writing Center. Tutors will then write a paragraph or short story.

8. The tutors will learn how to use the cut and paste options.

9. Using the paragraph or short story from Lesson 7, tutors will learn to use graphics to illustrate the writing sample.

10. The tutors will use the writing program computer software with a student, while the tutor is under the supervision of the tutorial teacher.

11. The tutors will learn how to use a comprehension software package such as Midnight Rescue.

12. The tutors will learn how to initialize a blank disk and use it to make a back up copy of a program.

After completing these tasks, the writer expects that all of the tutors will be comfortable computer users. The tutorial teacher expects all of the tutors to use the classroom computers purchased for the migrant program.

Measurement of Outcomes

This writer will measure computer anxiety with a survey designed to measure the degree of comfort experienced by the tutors

while using the computer. The writer will record these comfort feelings on a scale ranging from one to four with one ranked "very uncomfortable" and four ranked "very comfortable." First the writer will administer this instrument as a pretest (see Appendix C). Then the instrument will be administered monthly as an in progress test (see Appendix D). Finally the writer will administer the same instrument as a post test (see Appendix E).

At each session, this writer will initiate on a one-on-one technique an instructional program. The tutorial teacher will accomplish this program in an environment free from the threat of an outside intervention. At each of these sessions, the author will introduce a new task, designed to lead the student to a higher level of proficiency and comfortableness. This author will administer a pre and a post test as tutor's address each task. (see Appendix F). This writer expects this new type of teaching experience to help the tutors to overcome their computer anxiety. This type of testing allows the instructor to discover each student's weakness and start positive intervention immediately. As the tutors will lose their computer anxiety, the writer expects that they will do routine tasks using the computer. They will then introduce their students to the

wonders of the computer.

The writer will administer a Pre-Course Task Checklist survey. The survey will serve as a pre test to find out if the tutors can do certain tasks requiring the use of the computer (see Appendix B). The author will then use the same instrument as a Post Course Task Survey (see Appendix G). One reason for it is to learn if the tutor has learned the material presented.

CHAPTER IV

SOLUTION STRATEGY

Discussion and Evaluation of Solutions

One problem that existed in the writer's workplace was that tutors seldom used recently purchased computers. In a review of the literature regarding the problem, the author found many studies and in depth research seeking causes and solutions of the problem.

One popular theory held by researchers is that many individuals experience some degree of anxiety when exposed to new technologies, especially computers. Computer anxiety is any uncomfortableness a person feels while using a computer. Reluctance to use computers or any anxiety displayed in the use of computers shows computer anxiety (Koohang, 1986).

The problem of tutors not using computers in the workplace is not unique to the writer's workplace, but is causing concern all over America. Computers have been purchased for teachers to use in the classroom in 97 percent of America's schools (McCarthy, 1988;

Bruder, 1989). They will never be used to their potential until educators properly instruct teachers in how to use them (O.T.A., 1988).

Research shows that many teachers display computer anxiety. This prevents them from using computers in their classrooms (Zelman, 1986; Howard and Smith, 1986; Raub, 1981). Most of the literature reviewed by the author suggests that computer anxieties prevent many teachers from using their computers. Realizing that computer anxiety could have been preventing the teachers, in the author's workplace, from using their computers, the writer administered a survey (see Appendix C) to detect tutors' comfort levels when using computers. Six of the seven tutors showed on the survey that they were very uncomfortable using computers. Later the seventh teacher admitted unwillingness to publicly acknowledge being very uncomfortable using the computer.

Having learned that computer anxiety was the probable cause of the problem, the writer continued the literature review to find an appropriate solution to the problem. There were various solutions describing ways of overcoming computer anxiety, the cause of the problem in the writer's workplace. However the writer noted that

computer experience was the basic strategy in most solutions for overcoming computer anxiety. Many researchers related computer anxiety to computer experience. In other words the more computer experience a student has results in less anxiety when a student uses computers (Mathis & Others, 1970, Lloyd and Gressard, 1984 & Koohang, 1986).

Evidently before some people can begin to feel comfortable using computers, they must overcome their computer anxiety. This solution strategy was endorsed by Cambre and Cook, 1985 who noted that many studies have shown that most learners can reduce computer anxiety by instruction. Even brief periods of instruction are effective in reducing computer anxiety. For instance, Overbough & Reed (1990) reported that "the effect of instruction on reducing computer anxiety was . . . successful. Such a finding is promising simply because the instruction given to the test group was so brief" (p. 7). The writer was interested in the literature that showed that computer instruction even as brief as one day can significantly reduce computer anxiety (Overbough, 1990). Clearly the bulk of computer anxiety research suggested that instruction in computer use results in anxiety reduction (Lambert, 1989).

The writer believes that all the solution strategies suggested by these researchers stressing instructions alone are of value only if teachers tailor them to the needs of individual students. This should be done in a way that is not threatening to the student. The type of instructions the teacher gives and the environments in which the instructor teaches are important. Emotional status of the educator giving the instructions was also significant. Rosen (1988) said that "students coming through the public school system are faced with . . . computerphobic teachers . . . Our research and that of others has shown that many teachers are computerphobic and that these teachers are modeling computerphopic responses in their school children" (p. 23).

Hunt and Bolin (1991) said that it is imperative when instructing teachers to use computers that educators teach these adult learners in a way that reduces their computer anxiety. This increases their confidence in using computers. According to Torris (1985) people can overcome computer anxiety, since it is considered a temporary condition, by receiving instructions in an environment designed to reduce anxiety.

This author gave a pre course computer questionnaire to the

seven tutors participating in this practicum. Six of the seven tutors answered positively one question about having had previous computer instructions. All seven tutors noted that the instructions "were not effective at all." The tutors complained that the software used at the training session was not available in their workplace. Apparently the instructions had only increased the tutors' computer anxiety, and made them even more reluctant to use the computers. Convinced that instructions alone were not the solution to overcoming computer anxiety, the author was excited to find that many researchers also felt the same way.

Teachers can also reduce anxiety by making sure they educate their users in the application of computer technology (Lambert, 1989). The writer was especially interested in research conclusions that pointed out that when students are involved with learning computer applications, anxiety does decrease (Perkins, 1993). Other research revealed that educators can successfully treat technophobia either by providing individual tutoring or tutoring in group sessions (Rosen, 1993). Some researchers stress adamantly that when the main goal is to teach basic skills on the computer, it is necessary to instruct on a 1:1 teacher/student ratio basis (Maher,

1991). The writer also realized that it makes more sense for teachers to teach learners, who have computer anxiety, to use certain software packages. This is better than teaching them basic instructions on how to use the computers (Beard, 1993). Similarly while skills may be learned well, learners may not retain them over a long period. This can happen if the teacher does not offer the proper reassurance and support during the training period (Beard, 1993). The author finds an intriguing solution in that while tutors' achieve useful computer skills, they will simultaneously overcome computer anxieties. This solution reveals, that the courses offering instructions in using a word processor or a spreadsheet program to do a specific purpose are more closely focused on the development of transferable higher order thinking skills than are the usual push-the-key courses. That by experiencing this type of training, it is likely to produce the long lasting beneficial results that are the goals of all education (Beard, 1993).

Glowacki (1992) said that "there are many advantages using spreadsheets including ease of data entry. Another advantage is that computer experts can create templates . . . and can be used to fill in data that varies from month to month or year to year" (p. 10).

After critiquing the solutions presented in the research literature, the writer decided that combining parts from several solutions offered the most promise. Most of the solutions that the author found in the research literature offered critical insight into computer anxiety and related directly to the problem in the writer's workplace. The writer decided to use only those solutions that adapt easily to the writer's workplace. The writer has heeded Torris (1985), advice by giving the tutors computer instructions in an environment designed to reduce anxiety. Only the writer/instructor and tutor were present during lessons.

Description of Selected Solution

The solution gleaned from the literature, which addressed the cause of the problem in the writer's workplace, was first offered by Cambre and Cook (1985). They said that most learners could reduce computer anxiety by instructions. While this research gave the basic ingredient, instruction, for a solution, it failed to show the type of instruction needed. Torris (1985) carried the need for instruction to the next level by stating the teachers must give instructions in an environment designed to reduce anxiety. Moving

on to the next level, according to Maher (1991), not only must the educator's give the instruction in an environment free from any threat, but the instructor must give individual instructions. Using these solutions as a resource, a solution designed by the author was selected for carrying out the program. This solution was a Computer Anxiety Reduction Course of instruction that consisted of four parts. All four parts were considered equally important: (a) all instructions were on easy to understand computer functions and software, which the tutors could use in the classroom right away; (b) the writer used a one on one format for all instructions, and each tutor received the individual help needed to learn the material being presented; (c) the writer always gave instructions in a supportive environment, free from threat; and (d) the writer gave weekly instructions of a duration best suited to that particular tutor.

Report of Action

The writer made an appointment with the Title 1 Compensatory Education coordinator to discuss the implementation of the practicum. In the presentation to the coordinator, this writer

explained the problem of unused computers that existed in the schools. This writer also shared with the coordinator the probable cause, computer anxiety. The coordinator and the writer discussed a possible solution that is instruction in a non threatening environment using a 1:1 teacher/tutor ratio instructional format. The program's leader was very supportive of the project.

Sites chosen to carry out the specially designed solution provided not only computers, but also friendly, familiar and quiet places to give instructions. This writer used part of the tutors planning period in which to give the computer lessons. Duration of the instruction varied with each tutor. While one tutor might be the slowest learner on some types of instructions, the same tutor might be the fastest learner on another type of instruction.

This writer began the implementation of the problem solution by explaining to the tutors that programs designed especially for them were ready for application. The author explained that hopefully the program would make them more comfortable using the computer. These tutors were very receptive to the idea and anxious to get started.

Before starting instruction the writer gave the tutors the

Computer Anxiety Reduction Pre-course Computer Comfort Level test (see Appendix C) to find out their feelings about using the computer. This writer gave the survey again at four week intervals.

During the first week of the solution application the tutors seated themselves at the computers. The writer taught the names, meanings and uses of the input and output devices on a computer. The tutors also learned how to install a software package.

During the second week the tutors were instructed how to write a memorandum and how to use the underline, bold, italics, and save keys.

During the third week, the tutorial teacher provided the tutors with a Stylewriter II printer, some paper and an ink cartridge. They learned how to use the printer to print out a memorandum they had saved from a previous lesson. The tutorial teacher instructed tutors to give the memorandum to a teacher or to the writer.

In the fourth week of training, the writer and the tutors reviewed content-based software. They related it to the classroom needs of students, for example, one tutor used Reader Rabbit 2 software for reinforcing vowels. While the tutors learned how to use the software taught in this task, they had difficulty in deciding

which software package to use. This writer solved the problem by compiling a Computer Software Content Inventory CSCI (see Appendix H) for each tutor. When teachers at various schools learned of this handy inventory, the teachers besieged the writer with requests for copies. These tutors were then able, using the CSCI, to select the software to match the students' lesson plans. This author administered the Comfort Level Survey (see Appendix D) during the fourth week.

At the time of the fifth week, the tutors learned how to use The Teacher's Tool Kit or Word Bingo software. Teacher and tutors used the students' current spelling, sight words or vocabulary words to create a word search or Bingo game activity sheets. The tutors then printed out these activity sheets. When the tutors realized they could create activity sheets, the pride in this accomplishment knew no bounds. Creating these activity sheets using the Teacher's Tool Kit or Word Bingo, turned out to be a most popular lesson. This writer was surprised and happy to learn that the tutors were proudly teaching other tutors and teachers in the school how to create these objective-related fun sheets.

During the sixth week, the tutors learned how to complete order

information, such as typing in the date on which the tutor received an order. Tutors also typed in the final cost of an item on a prepared spreadsheet. The tutors learned how to keep items in alignment. These tutors were pleased that it was now possible to keep track of purchase orders on the computer. How quickly a column of numbers could be added amazed the tutors. These new computer users gained a new respect for the computer.

In the seventh week of lessons, the tutors reviewed computer writing program software packages such as Kid Works 2, Cotton Tales, EasyBook or The Writing Center. These tutors then wrote a paragraph or a short story. This writer could not help but notice that the tutors really enjoyed writing short stories. The writer was also pleased to note that the tutors looked forward to taking the computer lessons. Learning to write these stories using a computer writing program proved to be a fun task for the tutors.

During the eighth week of training, the tutors learned how to use the cut and paste option. At this time the tutorial teacher gave the Comfort Level Survey (see Appendix D).

In the ninth week, and using the paragraph or short story from week seven, the tutors used graphics to illustrate the writing

sample. During this lesson the writer noted that the tutors were not only comfortable around the computers, but had developed an insatiable appetite for computer knowledge. They asked many questions that are way beyond the scope of the instruction here. Some tutors even announced that they were going to buy computers for their own use in their homes. The tutors amazed the writer at the imaginative graphics they produced. One tutor even produced a poster advertising a meeting of the local reading council. This tutor sent copies of this poster to every school in the county. Another tutor created name plates cleverly decorated with fruit and vegetable pictures for school cafeteria use.

During the tenth week of training, the newly trained tutors used the writing program computer software with a student while under the supervision of the tutorial teacher. The General Coordinator of Federal Compensatory Education and a Migrant Resource Specialist happened to be in a school's migrant unit at a time when a second grade migrant student had just created a beautifully illustrated book about dinosaurs on the computer. Both officials were amazed and impressed with the child's handiwork.

Within the eleventh week, the tutors reviewed a comprehension

software package such as Midnight Rescue. This comprehension software package was taught to the tutors so they could in turn use it to help their pupils to develop reading and thinking skills. The software helped pupils to find the main idea in a story, to recall facts, to infer meaning, and to make deductive conclusions.

In the twelfth week of classes, the tutors learned how to initialize a blank disk and used it to make a back up copy of a disk. The tutors were pleased to learn how to make back up copies of shareware programs. One computer in the classroom had a shareware program that the other computers did not have. A copy was easily made and installed, so that all of the computers would have that same shareware program. Also a back up copy was made of some new software according to manufacturers directions. At this time the writer administered the Computer Anxiety Reduction Post Course Comfort Level Survey (see Appendix E).

CHAPTER V

RESULTS, DISCUSSION, AND RECOMMENDATIONS

Results

New computers were purchased by the General Coordinator Federal Compensatory Education for the migrant program. The new computers were to be used by the tutors as teaching aids when teaching migrant students. The problem was that the teachers never used the computers as teaching aids. This problem was documented when the writer gave a survey to the tutors (see Appendix A). This survey showed that two tutors used the computers only ten minutes per week, the other five tutors never used the computers (see Table 1).

Outcome 1.

The tutorial teacher gave tutors a Comfort Level Survey. This writer also gave tutors a Pre Course Task Survey. Tutors were also given the Pre Class Task Survey. Tutors were taught the use of computer output and input devices. The tutors also learned how to install a software package. This writer administered a Post Class Task Survey to the tutors.

The outcome was met.

A Comfort Level Survey showed that five tutors were uncomfortable using the computer (see Figure 1). One tutor was very uncomfortable using the computer. The other tutor was comfortable using the computer. The Post Class Survey confirmed that the tutors could do the task taught during the lesson (see Figure 2).

Outcome 2.

Students were given a Pre Class Task Survey. Tutors were taught how to write a memorandum and to use the underline, bold, italics and save keys. A Post Class Task Survey was given after the class was finished.

The outcome was met.

This Pre Class Task Survey showed the students were unable to do the task. The instructor noticed the tutors' anxiety becoming less severe as the friendly, personal lessons progressed. A Post Class Task Survey showed the tutors understood the task.

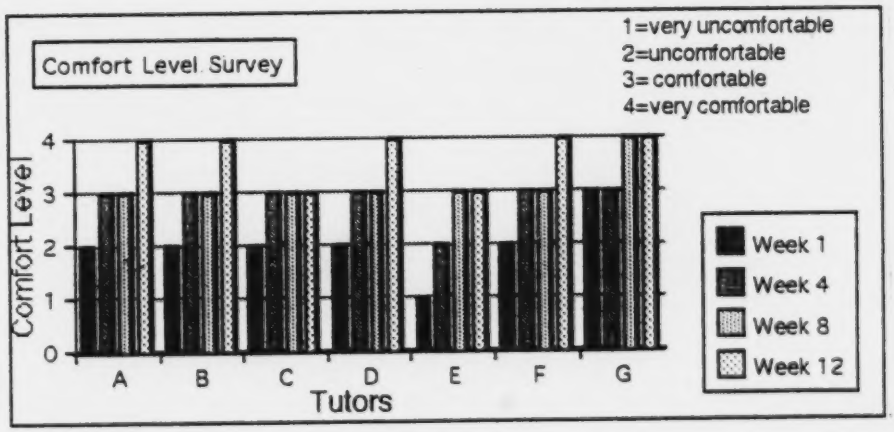

Figure 1. Computer Comfort Level Survey Results were recorded after the first week, after the fourth week, after the eighth week, and after the twelfth week.

Outcome 3.

After completing the Pre Class Task Survey, the instructor taught the tutors to use the printer. The tutors then printed out a memorandum. This tutorial teacher gave the Post Class Task Survey.

The outcome was met.

The Pre Class Task Survey showed that the tutors were unfamiliar with the new task. The Post Class Task Survey showed the tutors learned the lesson.

Outcome 4.

This author gave the tutors the Comfort Level Survey and the Pre Class Task Survey. This tutorial teacher taught the tutors how to use content-based software and how to relate it to students' classroom needs. A Post Class Task Survey was given.

The outcome was met.

A Pre Class Task Survey revealed that the tutors were unable to do the new task. The results of the fourth week Computer Comfort Level Survey showed that all the tutors except one had progressed from the uncomfortable level to the comfortable level. One lone

exception had improved from the very uncomfortable level to the just uncomfortable level. The good news was that all tutors had increased their comfort levels around the computer (see Figure 1). A Post Class Task Survey showed that five tutors learned the tasks. One tutor had difficulty with one task. Another tutor missed one lesson due to illness (see Figure 2).

Outcome 5.

The writer gave the tutors a Pre Class Task Survey. This instructor then taught the tutors how to use the Teacher Tool Kit or Word Bingo software. This tutorial teacher also taught the tutors to use the students' current spelling, vocabulary or sight words to create a word-search activity sheet.

This outcome was met.

The Pre Class Task Survey showed that none of the tutors could do any of the new tasks. The Post Class Task Survey showed the tutors had mastered those tasks.

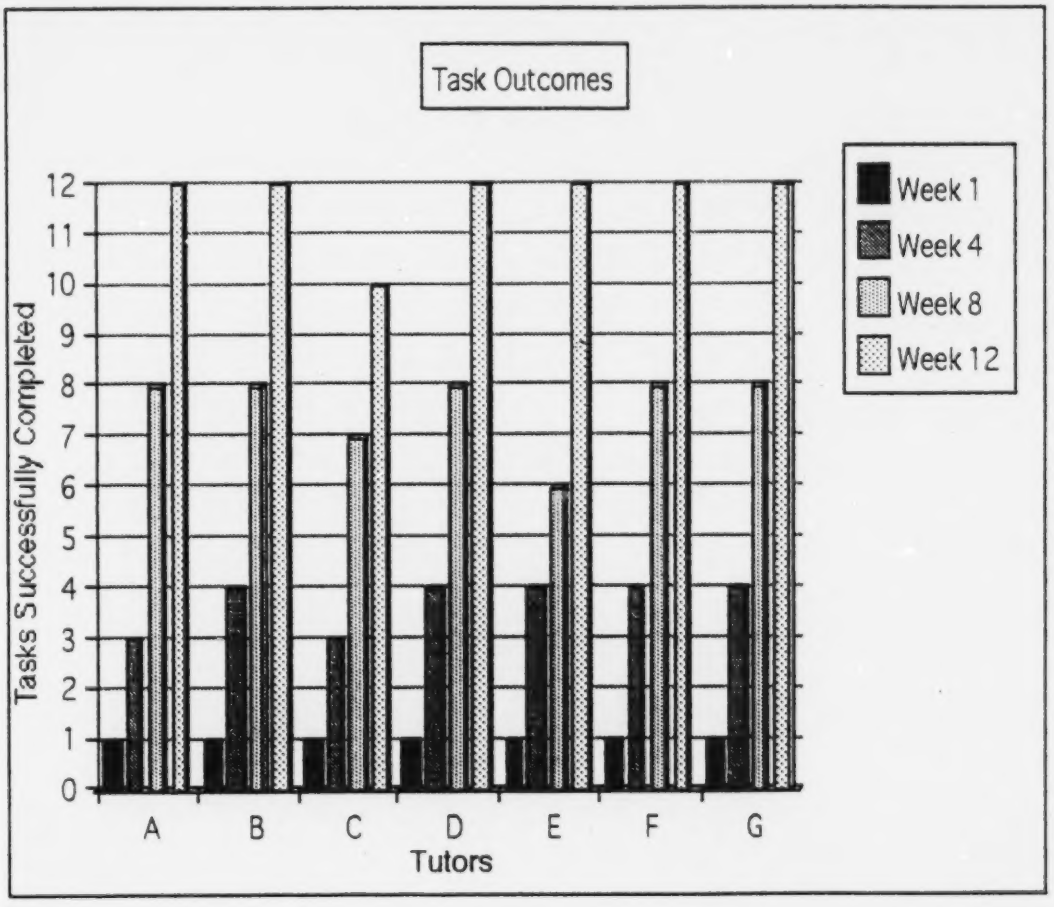

Figure 2. The Task Outcome Survey results were recorded after the first week, after the fourth week, after the eighth week, and after the twelfth week.

Outcome 6.

This instructor gave the tutors a Pre Class Task Survey. The writer explained to the tutors how to complete purchase order

information on a prepared spreadsheet template. These students also learned how to keep items in alignment.

This outcome was met.

The Pre Class Task Survey found that all tutors were unable to do any new tasks. A Post Class Task Survey showed that the tutors learned this new task.

Outcome 7.

This author gave the Pre Class Task Survey to the tutors. The tutorial teacher then taught the tutors how to use a computer writing program software package such as Kid Works 2, Cotton Tales, EasyBook, or The Writing Center. By using one of these programs each tutor wrote a paragraph or short story.

The outcome was met.

The Pre Class Task Survey found that no tutor could do any of the tasks. A Post Class Task Survey showed the tutors learned the assignment.

Outcome 8.

The writer gave the Comfort Level Survey to the tutors. This author also gave the Pre Class Task Survey. The tutors then were taught how to use the cut and paste option. Tutors were then given a Post Class Task Survey.

The outcome was met.

Results of the Pre Class Task Survey showed that all the tutors were unable to do the new tasks. This writer was very happy with the eighth week Comfort Level Survey. All seven tutors registered at the comfortable level on the survey (see Figure 1). This result was not unexpected because the writer had noticed that the tutors were happily looking forward to their computer lessons. A Post Class Task Survey showed that five tutors understood how to do the new task. One tutor was still having difficulty with some tasks. The other tutor has missed two lessons due to illness (see Figure 2).

Outcome 9.

The tutorial teacher gave the Pre Class Task Survey. Tutors, using the paragraph or short story from lesson seven, were taught to illustrate the writing sample using graphics. A Post Class Task

Survey was given.

The outcome was met.

A Pre Class Task Survey displayed the inability of the tutors to do any tasks. The Post Class Test Survey only proved the obvious. These tutors had learned this lesson well.

Outcome 10.

The Pre Class Task Survey was given to the tutors. This writer, acting as an observer, monitored the tutors as they taught their young first and second grade pupils to write original short stories and illustrate them with graphics. This tutorial teacher gave the tutors a Post Class Task Survey.

The outcome was met.

A Pre Class Task Survey again revealed that none of the tutors could do any of the tasks. While monitoring the tutors, the writer was filled with pride as the happy, anxiety free tutors taught the eager, young students how to write stories and illustrate them. The Post Class Task Survey showed that all the tutors could carry out

the task in this lesson.

Outcome 11.

A Pre Class Task Survey was given to the tutors. The tutorial teacher taught the tutors how to use a comprehension software package such as Midnight Rescue. A Post Class Task Survey was given.

The outcome was met.

A Pre Class Task Survey showed tutors unfamiliarity with the task. The Post Class Task Survey suggested that six tutors found this software to be a valuable teaching aid. One tutor was absent due to illness.

Outcome 12.

A final Comfort Level Survey was given to the tutors. The Pre Class Task Survey was also given. The tutors learned how to initialize a blank disk and used it to make a back up copy of a program. A Post Class Task Survey was also given at this time.

The outcome was met.

The Pre Class Task Survey again revealed the tutors' inability to do any of the tasks. The final Post Class Task Survey showed that six of the seven tutors had learned all 12 tasks. One lone exception missed two lessons because of illness (see Figure 2).

A final Comfort Level Survey showed that all seven tutors were comfortable using the computers. An unexpected bonus was that five tutors said they were very comfortable using the computers (see Figure 1).

The purpose of this practicum was to help the tutors overcome their reluctance to use the computers due to computer anxiety. The results of a Pre Class Task Survey showed that none of the tutors could do the tasks selected for the Individualized Computer Instructional Course. This inability to do even simple computer tasks would inevitably result in some computer anxiety. The bad experiences of previous lessons only added to this anxiety. Results of the Post Class Task Surveys showed that all the tutors except one who missed two classes, mastered all the tasks.

A final Comfort Level Survey showed that all of the tutors

enrolled in the individualized computer instructional course, finished the course feeling comfortable using the computer. Five of the tutors were even very comfortable using the computers. After analyzing the results of all these surveys, one can only conclude that computer anxiety can be effectively reduced by using the writer's individualized computer instructional course. This results in a positive attitude by the tutors toward the computers.

Discussion

A solution strategy developed for overcoming classroom computer avoidance by adult educators was the result of reading the research literature written by top researchers in the field of computer avoidance. This research showed that students must conquer computer anxiety before they can begin to feel comfortable with computers. Although computer anxiety is probably a temporary condition, students can overcome it by training in the proper environment (Torres, 1985).

The writer's solution strategy consisted of 12 easy computer tasks in a stress-free friendly environment. Other researchers

showed that exposure to computer instruction reduces teachers' and students' computer anxieties. Whatever the time spent in using the computer, even with an exposure time as little as six hours (Overbaugh and Reed, 1990; Overbaugh and Reed, 1991), to four weeks (Reed and Palumbo, 1987/88) and 60 hours (Honeyman and White 1987), computer anxiety is reduced.

During the individualized computer instructional course, the author observed that as the tutors gained mastery of the tasks being taught, they not only lost their reluctance to use the computers but became insatiable in their quest for computer knowledge. Being primarily a teacher, the writer found great satisfaction in watching the anxiety and fear gradually fade from the faces of the tutors. The fearful faces were replaced by smiles of anticipation as tutors embraced each new task.

However the greatest reward reaped by the writer was the exultation felt as she watched the young, migrant students finally using the computers purchased for them. Watching the children use the once idle computers, reminds the writer that the objectives of this practicum have been met. Our greatest responsibility is to

make sure all children are trained by our schools so they can be successful in the world they will inherit. The writer is convinced that teachers should make available computer-assisted instruction and computer-based instruction to more students. Therefore, teachers should be prepared to integrate computers into their classes. This can only happen if there are sufficient computer literate teachers (Overbaugh and Reed, 1992).

Recommendations

The result of the completed practicum exceeded the authors expectation. This writer cannot recommend any major changes in the implementation of the practicum. However with the 20-20 hindsight gained while traversing the long road from inception to completion of the practicum the writer would like to offer the following recommendations:

1. Make sure that the students involved in the project are aware of its purpose and are willing participants.

2. Be flexible in arranging time slots to coincide with participating students changing schedules.

3. Expect and be prepared to give make up lessons to participating students.

4. If lessons are presented at several different schools or locations, make sure the proper inventory is available for teaching the lessons.

5. Keep school personnel (principals and teachers) constantly informed of the project's progress. This will result not only in goodwill for the project, but also these people may offer many valuable suggestions.

6. When teaching students to make back up disks, be sure they are made aware of the copyright laws.

7. Briefly teach the five steps of process writing before teaching participating students to use the computer software for writing. The five steps of process writing are: (a) pre writing; (b) first draft; (c) revise; (d) proofread; and (e) publish.

8. Since computer technology is constantly changing, students from this model should receive frequent training to keep their skills current.

Dissemination

The writer feels that the positive results of this practicum should be given the widest publicity possible. An article explaining the problem and its solution is already being prepared to send to a prominent computer magazine. A presentation using visual aids has already been prepared to present at an educational conference. This presentation was presented at a Nova Southeastern University Cluster meeting where it was highly acclaimed. The writer knows that computer anxiety is treatable and wants the world to know about it.

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APPENDIX A

PRE-COURSE QUESTIONNAIRE

COMPUTER QUESTIONNAIRE

I agree to complete this questionnaire since the results will be kept confidential and used solely for a research paper.

(Signature) _____

1. About how many minutes per day do you use the computer in any way such as, word processor or a game? (Please circle one.)

0-5 5-10 10-20 20-40 40-60

2. About how many minutes per week do you allow your students to use the computer? (Please circle one.)

0-5 5-10 10-20 20-40 40-60

3. Would you use the computer more if . . . (Please check one)

a. _____you knew more about the computer?

b. _____there were more programs in the computer?

c. _____the computers were easier to use?

d. _____you could choose your own programs?

e. _____you were not afraid you'd break it?

4. Have you had previous instruction? _____yes _____no

5. Did you have computer instruction in elementary school? ____yes____no

a.) in middle school? ____yes ____no b.) in high school? ____yes____no

c.) in college? _____yes_____no d.) on the job? ____yes____no

6. If you answered "yes" to any of the questions in #4 or #5, was the instruction . . . (Please check one.)

a.____very effective?

b.____somewhat effective?

c.____not effective at all?

7. What are your feelings toward the computer? (Please check one.)

a.____very uncomfortable

b.____uncomfortable

c.____comfortable.

d.____very comfortable.

APPENDIX B

PRE COURSE TASK CHECKLIST

PRE COURSE TASK CHECKLIST

Name _____

Can you do the following tasks?

	Check: yes	no
1. Name output and input devices and install a software package.	____	____
2. Write a memorandum including the use of the underline, bold, print, and save keys.	____	____
3. Use the printer and print out the memorandum.	____	____
4. Relate content-based software to classroom needs.	____	____
5. Use the Teacher's Tool Kit or Word Bingo to devise a lesson and print it out.	____	____
6. Use a prepared spreadsheet to list information.	____	____
7. Write a paragraph using a student writing program software such as Kid Works 2, Cotton Tales, EasyBook, or The Writing Center	____	____
8. Use cut and paste options.	____	____
9. Use graphics to illustrate a written paragraph.	____	____
10. Teach a student to use the writing program.	____	____
11. Use a comprehension software package.	____	____
12. Initialize and use a disk to make a back up copy.	____	____

APPENDIX C

PRE COURSE COMPUTER COMFORT

LEVEL SURVEY

PRE-COURSE

COMFORT LEVEL SURVEY

Week 1

Name _____ Date _____

Please circle the number on the scale below that corresponds with how you feel about the following statement.

When I use the computer, I am,

1 -Very Uncomfortable

2 -Uncomfortable

3 -Comfortable

4 -Very Comfortable

APPENDIX D

IN-PROGRESS

COMPUTER COMFORT LEVEL SURVEY

IN-PROGRESS

COMFORT LEVEL SURVEY

Week 4 ___

Week 8 ___

Name _____ Date _____

Please circle the number on the scale below that corresponds with how you feel about the following statement.

When I use the computer, I am,

1 -Very Uncomfortable

2 -Uncomfortable

3 -Comfortable

4 -Very Comfortable

APPENDIX E

POST-COURSE

COMPUTER COMFORT LEVEL SURVEY

POST-COURSE

COMFORT LEVEL SURVEY

Week 12

Name _____ Date _____

Please circle the number on the scale below that corresponds with how you feel about the following statement.

When I use the computer, I am,

1 -Very Uncomfortable

2 -Uncomfortable

3 -Comfortable

4 -Very Comfortable

APPENDIX F

PRE AND POST CLASS TASK SURVEY

Pre and Post Class Task Survey

Name _____ Date _____

Course Title _____

Lesson _____

Can you do lesson task #_____?

(Check One Below)	(Check One Below)
Pre-class	Post-class
yes ____	yes ____
no ____	no ____

APPENDIX G

POST COURSE TASK CHECKLIST

POST COURSE TASK CHECKLIST

Name - _____

Can you do the following tasks?

Check yes or no.

1. Name output and input devices and install a software package. ____ ____

2. Write a memorandum including the use of the underline, bold, print, and save keys. ____ ____

3. Use the printer and print out the memorandum. ____ ____

4. Relate content-based software to classroom needs. ____ ____

5. Use the Teacher's Tool Kit or Word Bingo to devise a lesson and print it out. ____ ____

6. Use a prepared spreadsheet to list information. ____ ____

7. Write a paragraph using a student writing program software such as Kid Works 2, Cotton Tales, EasyBook, or The Writing Center. ____ ____

8. Use cut and paste options. ____ ____

9. Use graphics to illustrate a written paragraph. ____ ____

10. Teach a student to use the writing program. ____ ____

11. Use a comprehension software package. ____ ____

12. Initialize and use a disk to make a back up copy. ____ ____

APPENDIX H

COMPUTER SOFTWARE CONTENT INVENTORY

Computer Content Software Inventory

For Macintosh Computers

READING MAZE -

Letter Recognition -

Match Pictures

Match Letters

Match Picture w/letters

Match Letter w/Pictures

Word Recognition -

Match Word with Letters

Match Picture with Words

Match Word with Pictures

Sentences -

Simple Sentences (Choose picture described by sentence.)

Instructions -

Following Written Directions (Drag one or more objects to a picture.)

Incomplete Sentences

Choose the complete sentence to go with a picture.

Mixed-up Sentences -

Drag the sentence fragments into position until the mixed-up sentence becomes a complete sentence.

True/False Sentences -

Choose the sentence that describes a picture.

Noun Objects -

first Letter - (Which beginning letters?)

Size -

How many letters? (2, 3, 4, 5, more)

End Consonant -

Which ending consonants? (d, g, k, l, m, n, p, r, t, w, y, others)

Vowels -

Which vowels?

Blends/Digraphs

With r, with l, with s, ch, sh, th

Reversals -

Which reversals? (b/d, b/p, b/q, d/p, d/q, p/q, m/w, n/u)

PUTT-PUTT'S FUN PACK

Checkers

*Cheese King - For advanced spellers or just learning the A.B.C.'s.

*Remember! - Practice memory and pattern recognition skills.

Circus Puzzle Blocks

Tic-Tac-Toe

Pinball

JOKUS TOYSTORE

Shape train - Match shapes

Remember It! - Find matching pairs of pictures.

Match-It - Match objects according to how they are used in everyday life.

Astroman - Eye-hand coordination and timing.

The Color Box - Uncomplicated paint program

Storyteller - Tell your own story by selecting among various characters. When you are finished creating your story, computer will read it to you. (Child's language development)

KID WORKS 2

Storywriter - Type in story. Use different sized font.

Story Illustrator - Different graphics and pictures to color.

Story Player - Reads your stories back to you.

Create new icons in icon maker. Save and print out your story with graphics.

READING MAGIC LIBRARY, FLODD THE BAD GUY

*Builds Reading Skills

*Builds Vocabulary

*Develops Critical Thinking

*Encourages cooperative learning

The Read Mode - The Read Mode lets you read a story, directing its path by making decisions along the way at the choice screens. Two reading levels - Standard and Early Reader. Teachers can "hide" key words. Users can uncover the words by tapping space bar.

The Writer Mode - Follow-up to Read Mode. Students can type in their own ideas to go with graphics. Stories can be printed and put together to create story books.

The Record Mode - Teacher can prerecord reading the story. Students can have fun practicing their reading skills by using funny voices, sound effects, music, etc.

STORYTIME TALES

Three stories to read. (Forgetful's Secret, Dirty Duds, and Bobby, Bobby, What Die You Do?) Play stories all the way through and listen or children can choose to repeat favorite parts. Lots of repetition if you choose.

STICKYBEARS

Alphabet

Counting

Grouping

Shapes

Opposites

Colors

READER RABBIT I

Categories/Themes *

Reader Rabbit's Sorter Game - p.11

Recognizing letters, locating beginning, middle, and ending letters in words, recognizing spelling patterns. Students select words that have the same letter shown on the sorter machine.

Reader Rabbit's Labeler Game - (K-2) p.18

Locating middle, beginning, and ending letters in words, recognizing middle vowel location in words, recognizing spelling patterns, developing spelling skills, associating words with pictures. Students spell words that identify pictures by moving beginning, middle, and ending letters to their proper positions on picture labels. Choose from different categories of pictures - animals, travel, house, kitchen, outdoors, people, play and wear, containers and variety.

*Click on letter/ Click on space line

Word Train Game - p. 23

Identifying beginning, middle, or ending letters in words, recognizing spelling patterns, identifying and sequencing words that differ by one letter from a given word, and logical thinking.

* Students fill a train with words that differ by one letter from the word before it.

Reader Rabbit's Match-up Games - p. 29.

Associating and matching pictures, words, or beginning, middle, and ending letters, and words.

ALPHABET BLOCKS

Pre-Reading Skills - Four Games that Teach and Other Skills

Teaches all the letters and sounds of the alphabet. Introduction to alphabet sounds and names -

1. Letter Names - Coach Jack - Identify letters by name.

2. Letter Recognition - Coach Jack - Match letters.

3. Word Sounds - Coach Bananas - Identify words that begin with a letter sound.

4. Letter Sounds - Coach Bananas - Identify letters by sound.

5. Mouse Control

6. Vowel/Consonant Recognition

7. Following Directions

JUNGLE SAFARI

See and hear the names of over 80 animals plus a variety of African plants. See pictures of the animals with their babies. Habitats include The Plains, Tall Grass, Rain Forest, and The River.

Review the animals in each section and help children to pronounce each animal's name. Distinguish one animal from another. Ask students to compare and contrast some basic characteristics of each animal. As a class, place animals that are similar in groups, beginning with cat family.

Talk about strengths and weaknesses different types of animals have. Connect these traits to the ways in which each animal adapts to its particular environment.

KATIE'S FARM

(McGee Visits) No words - Software is designed for children aged 2-6. Good way to introduce object/shape recognition, spatial relationships, eye/hand coordination, cause and effect, story-telling

SUPER SOLVERS MIDNIGHT RESCUE

Deductive Thinking Game - ages 7-10. This software builds reading comprehension and thinking skills. It also strengthens the ability to comprehend written information and use it to reach conclusions. Midnight Rescue develops reading and thinking skills, reading for main idea, recalling facts, inferring meaning and deductive conclusions.

KIDSTIME

KidsTime will help the child learn numbers and letters, matching and grouping skills, basic musical concepts, and eye/hand coordination.

1. Dot-to-Dot (K-1)-The child can learn the numbers and alphabet in order first with Dot-to Dot. Dot-to-Dot from the file "shapes" - includes circle, pentagon, triangle, square, diamond, hexagon, and octagon This includes following the dots of numbers, upper case

letters, and lower case letters.

2. As the child becomes more familiar with the alphabet and the Macintosh keyboard they will enjoy trying ABKey. ABKey will help the child to identify sounds of letters and beginning sounds of words. There are four different options with the letters and pictures. a. Upper case letters, b. Lower case letters, c. Easy pictures, and d. Hard pictures. Upper case letters contain only upper case or capital letters. Lower case letters contain only lower case or small letters. Easy pictures are pictures in which the beginning letter of the picture should be easy to figure out. Hard pictures are pictures in which the beginning letter of the picture may be harder to figure out.

3. Match-up will help the child learn to match and categorize items and give them practice with fine motor skills. Students will match up pictures (match picture with identical picture), shapes (match shapes only, no words), letters (click and drag an upper case letter, a lower case letter and a picture of an object that begins with that letter all to the top of the screen), words (match word with picture), shapes & sizes (use for graphs), shapes and patterns, shapes & shape words, memory game (concentration game)

4. Story Writer will help the child learn the keyboard and spark imagination by the stories the child writes.

5. KidsNotes will help develop an interest in music while teaching musical concepts such as note names and durations, the basics of key and time signatures, and the correlation between notes on the piano keyboard and notes on the staff.

A SILLY, NOISY HOUSE (CD-ROM)

This software package has no reading skills required and is for ages 3 and up. (Speakers and head phones must be used in some editions). This software contains favorite songs & rhymes such as Twinkle, Twinkle, Little Star , Starlight, Star Bright, First Star Seen Tonight,

and A Teddy Bear's Birthday Party - music, cartoons, animals. Children can explore a house from room to room. This is good practice for a novice just learning how to use the mouse and any naturally curious child.

THE GREATEST CHILDREN'S STORIES EVER TOLD (CD-ROM)

The Gingerbread Boy, Little Red Riding Hood, Three Billy Goats Gruff, The Boy Who Cried Wolf, The Princess and the Pea, Pinocchio, The Ugly Duckling, Rip Van Winkle, Tom Thumb and Others.

JUST GRANDMA AND ME (CD-ROM)

Ages 3-8 Original story book - By exploring the text and the pictures, children will soon learn words, phrases, and complete sentences - Students become active participants.

WORD TALES (CD-ROM)

Ages 4-7 Each word tale consists of two parts. In the first part, Milo asks for the first letter of a word that relates to the animation on the screen. To one side, there is a list of three possible first letters from which to choose. Click on a letter. Milo will pronounce the word created. Pick the correct letter; the animation moves into a new scene. In the new scene Milo asks you to find all of the objects that begin with the letter sound you chose in the first part. Click on an object that starts with that letter; Milo will pronounce the word and it will appear on the right side of the screen in a "found" list. if you want to hear the word again, click on Milo's image in the upper right-hand corner of the screen, or click on the word in the "found" list. Find all the objects. The animation has a surprise ending and changes to another Word Tale. If you cannot find all the objects or you do not want to play a particular Word Tale,

skip it. Move to the next one by clicking on the green door in the bottom right-hand corner of the screen. Or, to return to Milo's control room, click on the red door. A family activity book is included with ideas for activities.